

S.N 09/929,111

Atty Dkt No. GP-301052 (GP-0357PUS)

Amendments to Claims

1. (Currently amended) A method for monitoring clamping loads used to clamp the clamp portions of a production part in position in a machining fixture, comprising the steps of:

substituting a test part for the production part wherein said test part is configured with sufficient size and shape so that the test part interfaces in a like manner as a production part in position in the machining fixture and includes at least one clamp portion in the same location as a clamp portion on said production part and having wherein a load cell is installed thereto at said at least one clamp portion;

clamping said test part with a clamp at said at least one clamp portion of said test part; and

collecting and recording data from said load cell.

2. (Currently amended) A test pallet to substitute for a production pallet having a clamp portion located thereon in a station for machining comprising:

said test pallet configured with a clamp portion like said production pallet and with sufficient size and shape so that the test pallet interfaces in a like manner with a clamp registry of the station for machining but distinguished from said production pallet by being capable of recording data;

said clamp portion on said test pallet being in the same location as the clamp portion on said production pallet;

a load cell installed at said clamp portion on said test pallet; and  
an on-board data acquisition collector.

3. (Previously amended) The test pallet, as defined in claim 2, further comprising a test code operable to communicate at said station not to proceed with said machining there.

4. (Original) The test pallet, as defined in claim 2, further comprising a proximity switch to detect when said test pallet is in position and ready to record load cell data.

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5. (Original) The test pallet, as defined in claim 2, further comprising a case enclosing said on-board data acquisition collector.

6. (Original) The test pallet, as defined in claim 2, wherein said on-board data acquisition collector is operable to store load cell data and download the data in an electronic readable format.

7. (Allowed) A method for monitoring clamp loads used to clamp a production pallet in position for at least one matching station, comprising the steps of:  
substituting a production pallet with a test pallet;  
detecting when said test pallet is at the machining station and ready to record load cell data;  
clamping said test pallet at at least one clamp portion having a load cell installed thereto; and  
collecting and storing load data from said load cells

8. (Allowed) The method as defined in claim 7, further comprising the step of:  
signaling to the machining station not to proceed with a matching operation when test pallet is clamped.

9. (Allowed) The method as defined in claim 7, further comprising the steps of:  
manipulating the collected load data; and  
storing a representative load reading from each of said load cells.

10. (Allowed) The method as defined in claim 7, further comprising the steps of:  
transferring said test pallet to a second machining station;  
collecting clamping load data from a clamp of said second machining station; and

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storing said load data of said second machining station along with said load data from the previous machining station.

11. (Allowed) A method for monitoring clamp loads used to clamp production pallets in position in a transfer machining line, comprising the steps of:

substituting a test pallet for a production pallet during a production cycle wherein said test pallet includes at least one load cell located at a respective clamp portion;

placing said test pallet on a transfer bar which lifts and carries said test pallet from station to station;

separating said transfer bar from said test pallet when said test pallet is delivered to a first machining station;

clamping said test pallet with a clamp at said clamp portion;

detecting when said transfer bar has separated from said test pallet;

collecting and storing data from said load cell.

12. (Allowed) The method as defined in claim 11, wherein the step of detecting when said transfer bar separates from said test pallet is accomplished by a proximity switch.

13. (Allowed) The method as defined in claim 12, further comprising the steps of:

signaling a data collector to initiate data collection from said load cells after said proximity switch detects said transfer bar has separated from said test pallet.

14. (Allowed) The method as defined in claim 11, further comprising the steps of:

signaling to the machining station not to proceed with a machining operation once said test pallet is clamped.

15. (Allowed) The method as defined in claim 11, further comprising the steps of:

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transferring said test pallet to a second machining station;  
collecting load cell data from said second machining station; and  
storing said second machining station data along with said previous machining  
station data.